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|---------------------|-------------|----------------------|---------------------|------------------|
| 10/664,449          | 09/20/2003  | Chen-Yu Huang        | CHA9 2003 0020US1   | 4525             |
| 45095               | 7590        | 11/20/2009           | EXAMINER            |                  |
| HOFFMAN WARNICK LLC |             |                      | SAINT CYR, LEONARD  |                  |
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|                     |             |                      | ART UNIT            | PAPER NUMBER     |
|                     |             |                      | 2626                |                  |
|                     |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|                     |             |                      | 11/20/2009          | ELECTRONIC       |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOCommunications@hoffmanwarnick.com

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/664,449 | <b>Applicant(s)</b><br>HUANG ET AL. |  |
|                              | <b>Examiner</b><br>LEONARD SAINT CYR | <b>Art Unit</b><br>2626             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07/13/09.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/29/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. **The newly amendment filed on 07/13/09 has not been considered, since the last office action dated 03/06/09 was made final. See the last office action mailed on 03/11/09 below.**

### *Response to Arguments*

2. Applicant's arguments filed 12/16/08 have been fully considered but they are not persuasive.

Applicant argues that Omoigui does not teach automatically modifying a user's keyword query by adding a semantic node to expand a user's search (Amendment, pages 12 - 14).

The examiner disagrees; Omoigui teaches "parsing and interpreting software component that understands natural language queries and can translate them to structured semantic information queries. Semantic queries are queries that incorporate meaning, context, time-sensitivity, context-templates, and richness that approach natural language. Fig. 61 shows a sample dialogue that allows users to **search the semantic environment using keywords**" (paragraphs 249, and 273; and 1058). Translating natural language queries into structured semantic information queries implies modifying a user's keyword query by adding a semantic node to expand a user's search, since semantic queries include meaning, wherein users can search semantic environment using keywords.

Applicant argues that Omoigui does not teach a semantic dictionary builder that adds keyword terms and associates them with semantic node (Amendment, pages 14, and 15).

The examiner disagrees, Omoigui teaches “The SDG stores all the XML metadata in the database tables in the SMS. The SDG parses the XML it receives from the SDA and, where necessary map semantic links to specific XML fields. The SDG adds or updates semantic links in cases where the XML includes information that links objects together” (paragraph 609, lines 1 – 8). Adding or updating semantic links that map to specific XML fields implies using a semantic dictionary builder, since the XML fields includes terms.

Applicant argues that Omoigui does not teach placing keyword query terms in order of the number of times that are used to shorten table lookup times (Amendment, page 15).

The examiner disagrees, Omoigui teaches “The headlines context template preferable incorporates how “hot” the result items are in order to determine the ranking of the results. This may be accomplished by querying the Agency to find out the number of semantically related objects on the Agency, which is a good indicator of whether an object's topic is "hot". The information agent performs implicit queries and provides and provides recommendations (ranked by relevance and time-sensitivity)” [paragraphs 1112, and 1319]. Performing implicit queries by providing

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recommendations, such as ranked by relevance and time-sensitivity, and ranking the results based on how "hot" is the object's topic implies placing keyword query terms in order of the number of times that are used to shorten table lookup times.

Applicant argues that claims 9 – 16 are statutory, since the computer program is incorporated on a computer usable medium that is a useful machine or article of manufacture (Amendment, page 16).

The examiner disagrees, since applicant only claims the program codes, not the computer usable medium. Therefore, the non-statutory rejection is maintained.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9 - 16 are rejected to non-statutory subject matter. Computer programs claimed are neither computer components nor statutory process, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

Thus, since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process, and non-

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statutory functional descriptive material. Accordingly, the subject matter of claims 9 – 16 is held to be non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 – 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Omoigui (US PAP 2003/0126136).

As per claims 1, 9, and 17, Omoigui teaches a self-enhancing search system/method for providing expanded keyword searches comprising:

a semantic taxonomy containing semantic nodes in a hierarchical structure (paragraph 705; paragraph 217, line 8);

a search system text analyzer that periodically looks through documents for a database and identifies semantic node terms in the semantic taxonomy applicable to keyword terms used in the document (“document as a tree of nodes”; paragraph 317, lines 5 – 7; paragraphs 1230 1058);

a semantic binder attaching the documents to a semantic node term applicable to keyword terms used in the set of the documents and related by the semantic node term ("testing whether or not a node matches a pattern"; paragraph 166; paragraph 317, lines 1 – 7; paragraph 311, lines 1 – 3; paragraph 1058); and

relevant document finder which automatically enhances a user's keyword query with the semantic node term applicable to a keyword query term in the user's keyword query to create an enhanced keyword query and based on the enhanced keyword query including both the user's keyword query term and the semantic node term, not only locates documents in the set of documents that contain a match for the user's keyword query term but also locates documents of the set which do not contain a match for the keyword query term in the user's keyword query but contain other keyword search terms of the set of documents that are linked by the semantic node applicable to the users keyword query term ("parsing and interpreting software component that understands natural language queries and can translate them to structured semantic information queries. Semantic queries are keyword-based queries" (paragraphs 249, and 273; paragraph 510, lines 1 –5; paragraph 74, lines 12 – 15; paragraph 217, lines 24 – 27; paragraph 1058).

As per claims 2, 10, and 18, Omoigui further discloses the enhanced search query automatically includes both "the user's keyword search query term" OR "the semantic node term" in an expanded keyword query to automatically without user intervention locate additional documents that contain a match for either the user's

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keyword search query or another keyword query containing the semantic node term which additional documents contain at least one different keyword term related to the semantic node (“parsing and interpreting software component that understands natural language queries and can translate them to structured semantic information queries... allows users to **search the semantic environment using keywords**”; paragraphs 249, 273, and 1058).

As per claims 3, 11, and 19, Omoigui further discloses a semantic dictionary which defines user keyword query terms in user’s query in accordance with the semantic nodes in a semantic dictionary (“invokes the query onto the database that hosts the semantic metadata”; paragraph 638, lines 12 – 14).

As per claims 4, 12, and 20, Omoigui further discloses a semantic dictionary builder which systematically examines the system log off line new keyword queries to increase the terms in the semantic dictionary and associate them with one or more semantic nodes (“The SDG adds or updates semantic links in cases where the XML includes information that links objects together”; paragraph 609, lines 1 – 8).

As per claims 5, and 13, Omoigui further discloses ranking the results of searches using the enhanced queries to place terms in the semantic dictionary in order of most often used keyword query terms to reduce table lookup time (“ranked by relevance... The headlines context template preferable incorporates how “hot” the result



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items are in order to determine the ranking of the results”; paragraph 1319, lines 1 – 7; paragraph 1112, lines 1 – 5).

As per claims 6, and 14, Omoigui further discloses that the semantic dictionary binder includes:

- a sub-module that identifies domain specific terms (“domain specific semantic information”) in a given keyword query, using domain specific glossary (paragraph 71);

- a submodule that finds synonyms (“same meaning”) and related terms for the identified keyword query terms, using domain specific thesaurus (paragraph 19, lines 13 - 15);

- a submodule that finds other statistically close terms to the identified keyword query terms (“new semantic links that are based on probabilistic inferences”; paragraph 623, lines 1 – 3); and

- a submodule that identifies relevant domain specific categories for the identified keyword terms, using domain specific ontology (paragraph 71, lines 17 –21; paragraph 258).

As per claims 7, and 15, Omoigui further discloses a submodule that binds keyword queries in the identified semantic taxonomy categories, using the results of the text analyzer (“ontology and categories corresponding to taxonomy for each semantic domain ... responds to semantic queries”; paragraph 670, lines 8 – 11).

As per claims 8, and 16, Omoigui further discloses a submodule that adds new doc-query links to the meta-data of the corresponding textual index entries to link the documents to the semantic taxonomy categories (“adding, removing and updating entries in the semantic metadata store”; paragraph 248; paragraph 269; paragraph 670, lines 8 – 11; paragraph 582).

### **Conclusion**

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

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number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
11/11/09

/Richemond Dorvil/  
Supervisory Patent Examiner, Art Unit 2626